



CHARLES D. BAKER
Governor

KARYN E. POLITO
Lieutenant Governor

The Commonwealth of Massachusetts
Executive Office of Health and Human Services
Department of Public Health
Bureau of Health Care Safety and Quality
Medical Use of Marijuana Program

99 Chauncy Street, 11th Floor, Boston, MA 02111

MARYLOU SUDDERS
Secretary

MONICA BHAREL, MD, MPH
Commissioner

Tel: 617-660-5370
www.mass.gov/medicalmarijuana

Title: Protocol for Sampling and Analysis of Finished Medical Marijuana Products and Marijuana-Infused Products for Massachusetts Registered Medical Marijuana Dispensaries

Exhibit 4.
**Analysis Requirements^a and Recommended Limits for Metals in
Finished Medical Marijuana Products**

(a) All Uses^b

Metal	Upper Limit (µg/kg)
Arsenic (inorganic)	200
Cadmium	200
Lead	500
Mercury (total)	100

(b) Ingestion Only^c

Metal	Upper Limit (µg/kg)
Arsenic (inorganic)	1500
Cadmium	500
Lead	1000
Mercury (total)	1500

^aAnalytical testing to determine the upper limits for (a) All Uses, and (b) Ingestion Only, must be performed consistent with the following United States Pharmacopeia (USP) chapter:

- *USP Chapter <233> Elemental Impurities— Procedures/Chemical Tests*

^bThese limits apply to finished plant material, cannabis resin, cannabis concentrates intended for ingestion, inhalation and dermal application. These limits are based in inhalation limits described in *USP<232> Elemental Impurities—Limits*.

^cThese limits apply to finished plant material, cannabis resin, cannabis concentrates intended for ingestion only. These limits are based on limits specified in *USP<2232> Elemental Contaminants in Dietary Supplements*.

All products that meet the above limits must bear the following label:

This product has been evaluated for environmental contamination (impurities) assuming that no more than 10 grams (0.35 ounces) of finished plant material (or the equivalent amount of concentrate) will be consumed per day.

In addition to the above labeling requirement for all products, products that meet only the upper limit described in (b) Ingestion Use Only must be labeled to indicate:

This product has been evaluated for impurities based on oral consumption only. DO NOT INHALE THIS PRODUCT.

Please note that these Protocols are continually evaluated and revised based upon new scientific and industry information.